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ABSTRACT OF THE DISCLOSURE

A method of reducing, treating or preventing drug-mediated respiratory depression, muscle rigidity, or nausea/vomiting in an animal, incident to the administration to said animal of a mixed delta/mu opioid agonist or a respiratory depression-mediating drug, comprising administering to the animal receiving said drug an effective amount of a delta receptor agonist compound. The delta agonist compound may comprise a compound of the formula:

$$\begin{array}{c|c}
R^7 \\
Ar \\
\hline
R^5 \\
R^6
\end{array}$$

$$\begin{array}{c|c}
R^7 \\
R^2 \\
\hline
R^4 \\
R^6
\end{array}$$

(I)

wherein:

Ar is a 5- or 6-member carbocyclic or heterocyclic aromatic ring with atoms selected from the group consisting of carbon, nitrogen, oxygen and sulfur, and having on a first carbon atom thereof a substituent Y and on a second ring carbon thereof a substituent R¹,

Y is selected from the group consisting of:

hydrogen;

halogen;

 C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl;

C₁-C₆ haloalkyl;

C₁-C₆ alkoxy;

C₃-C₆ cycloalkoxy;

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sulfides of the formula SR^8 where R^8 is C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl, C_3 - C_6 cycloalkyl, arylalkyl having a C_5 - C_{10} aryl moiety and an C_1 - C_6 alkyl moiety, or C_5 - C_{10} aryl;

sulfoxides of the formula SOR⁸ where R⁸ is the same as above;

sulfones of the formula SO₂R⁸ where R⁸ is the same as above;

nitrile;

 C_1 - C_6 acyl;

alkoxycarbonylamino (carbamoyl) of the formula $NHCO_2R^8$ where R^8 is the same as above;

carboxylic acid, or an ester, amide, or salt thereof;

aminomethyl of the formula $CH_2NR^9R^{10}$ where R^9 and R^{10} may be the same or different, and may be hydrogen, C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl, C_2 - C_6 hydroxyalkyl, C_3 - C_6 cycloalkyl, or C_5 - C_{10} aryl, or R^9 and R^{10} together may form a ring of 5 or 6 atoms, the ring atoms selected from the group consisting of N and C; carboxamides of the formula $CONR^9R^{10}$ where R^9 and R^{10} are the same as above, or C_2 - C_{30} peptide conjugates thereof; and

sulfonamides of the formula $SO_2NR^9R^{10}$ where R^9 and R^{10} are the same as above;

Z is selected from the group consisting of:

hydroxyl, and esters thereof;

hydroxymethyl, and esters thereof; and

amino, and carboxamides and sulfonamides thereof;

G is carbon or nitrogen;

 R^{1} is hydrogen, halogen, or C_{1} - C_{4} alkyl, C_{2} - C_{4} alkenyl, C_{1} - C_{4} alkynyl;

R² is hydrogen, halogen, or C₁-C₄ alkyl, C₂-C₄ alkenyl, C₁-C₄ alkynyl;

methyl, and wherein at least one of R³, R⁴ or R⁵ is not hydrogen, subject to the proviso that the total number of methyl groups does not exceed two, or any two of R³, R⁴ and R⁵ together may form a bridge of 1 to 3 carbon atoms; 5 R⁶ is selected from the group consisting of:

R³, R⁴ and R⁵ may be the same or different, and are independently selected from hydrogen and

hydrogen;

C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl;

C₃-C₆ cycloalkyl;

arylalkyl having C₅-C₁₀ aryl and C₁-C₆ alkyl moieties;

alkoxyalkyl having C₁-C₄ alkoxy and C₁-C₄ alkyl moieties;

C₂-C₄ cyanoalkyl;

C₂-C₄ hydroxyalkyl;

aminocarbonylalkyl having a C₁-C₄ alkyl moiety; and

R¹²COR¹³, where R¹² is C₁-C₄ alkylene, and R¹³ is C₁-C₄ alkyl or C₁-C₄ alkoxy;

and

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R⁷ is hydrogen or fluorine,

or a pharmaceutically acceptable ester or salt thereof.